84-094116/15 A41 E13 UYSA 21.10.81
SARAT UNIV MECHANIC *SU 1027-150-A
21.10.81-SU-379034 *(07.07.83)* C07c-15/46 C07c-67/48 C07c-69/65

Stabilisation of styrene or methyl-methacrylate - improved by using imino-oxyl radical inhibitors

C84-040065

These inhibitors are used during purifcn, storage and transport of styrene and methyl methacrylate in circumstances where polymerisation is undesirable. They are based on cpds. of formula (I), where R is -NH- (CH2)6-NH- or gp. of formula (II). They are obtd. by the interaction of 2,2,6,6-tetramethyl- 4-oxopiperidine-1-oxy, 'TMPO', with hexamethylenediisocyanate, or dichloroanhydride of butylterepthalic acid e.g. 1.65 g hexamethylenediisocyanate in 10 ml of dry benzene are heated for 4 hrs. with 3.45 g TMPO in 40 ml. dry benzene, washed in hexane and the obtd. resin dissolved in 20 ml. nitromethane, chromatographed over aluminium oxide and eluted with nitromethane. The solvent is evapd. under lowered pressure and the residue recrystallised from a mixt. of ether and hexane. With concns. of inhibitor 0.5-2.0 x power minus 4 mol/l, polymerisation of styrene is retarded for 165-185 mins. compared with 73 mins. with the original inhibitor; polymerisation of methyl methacrylate is retarded for 650-686 mins. compared with 232 mins. Bul.25/7.7.83 (3pp Dwg.No.0/0)

A(1-D3, 1-D10, 2-C) E(7-D5, 10-G2H, 10-J2B4)

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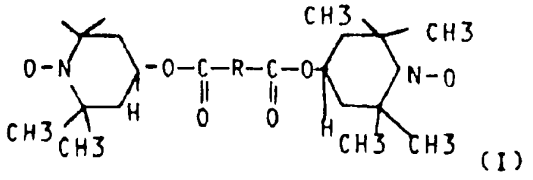
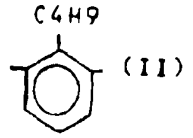


(I)



(II)